

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-18 (cancelled).

19 (previously presented). A digital image processing method for detecting facial features in a digital image, comprising the steps of:

detecting iris pixels;

clustering the iris pixels;

selecting at least one of the following methods to identify eye positions in an image:

i) applying geometric reasoning to detect eye positions using the iris pixel clusters;

ii) applying a summation of squared difference method to detect eye positions based upon the iris pixel clusters; and,

iii) applying a summation of squared difference method to detect eye positions from the pixels in the image;

wherein the method applied is selected on the basis of the number of iris pixel clusters; and locating facial features using identified eye positions; and

wherein estimated locations to search for the facial features are based on the identified eye positions.

20 (currently amended). The method of claim 19, wherein the estimated locations to search for the facial features are found by aligning the eye positions within a model of the shape of the facial features with the ~~automatically~~ identified eye positions.

21 (original). The method of claim 19, wherein estimated locations to search for the facial features are based on the average position of these features within a set of example faces.

22 (previously presented). A digital image processing method for detecting facial features in a digital image, comprising the steps of:
detecting iris pixels;
clustering the iris pixels;
selecting at least one of the following methods to identify eye positions in an image:
i) applying geometric reasoning to detect eye positions using the iris pixel clusters;
ii) applying a summation of squared difference method to detect eye positions based upon the iris pixel clusters; and,
iii) applying a summation of squared difference method to detect eye positions from the pixels in the image;
wherein the method applied is selected on the basis of the number of iris pixel clusters; and locating facial features using identified eye positions; and
wherein the facial feature positions are identified using an active shape model technique.

23 (original). The method of claim 22, wherein the shape model technique uses texture windows and the size of the texture windows is automatically scaled based on a current estimate of the size of the face.

24 (original). The method of claim 22, wherein the spacing of search locations is automatically scaled based on a current estimate of the size of the face.

25 (original). The method of claim 23 wherein an estimate of the size of the face is found by determining the scale that best aligns a current estimate of the feature positions with a model of the average positions of the facial features using a least squares process.

26 (original). The method of claim 24 wherein an estimate of the size of the face is found by determining the scale that best aligns a current estimate of the feature positions with a model of the average positions of the facial features using a least squares process.

27 (original). The method of claim 22, wherein the positions of the facial features that are outside a shape space boundary are constrained to locations of the shape found at the nearest point on a hyper-elliptical boundary of the shape space.

28-44 (cancelled).

45 (previously presented). A computer program product for detecting facial features in a digital image, the computer program product comprising a computer readable storage medium having a computer program stored thereon for performing the steps of:

detecting iris pixels;
clustering the iris pixels;
selecting at least one of the following methods to identify eye positions in the image:
i) applying geometric reasoning to detect eye positions using the iris pixel clusters;
ii) applying a summation of squared difference method to detect eye positions based upon the iris pixel clusters; and
iii) applying a summation of squared difference method to detect eye positions from the pixels in the image;
wherein the method applied is selected on the basis of the number of iris pixel clusters; and locating facial features using identified eye positions; and
wherein estimated locations to search for the facial features are based on the identified eye positions.

46 (original). The computer program product of claim 45, wherein the estimated locations to search for the facial features are found by aligning the eye positions within a model of the shape of the facial features with the automatically identified eye positions.

47 (original). The computer program product of claim 45, wherein estimated locations to search for the facial features are based on the average position of these features within a set of example faces.

48 (previously presented). A computer program product for detecting facial features in a digital image, the computer program product comprising a computer readable storage medium having a computer program stored thereon for performing the steps of:

detecting iris pixels;

clustering the iris pixels;

selecting at least one of the following methods to identify eye positions in the image:

i) applying geometric reasoning to detect eye positions using the iris pixel clusters;

ii) applying a summation of squared difference method to detect eye positions based upon the iris pixel clusters; and

iii) applying a summation of squared difference method to detect eye positions from the pixels in the image;

wherein the method applied is selected on the basis of the number of iris pixel clusters; and locating facial features using identified eye positions; and

wherein the facial feature positions are identified using an active shape model technique.

49 (original). The computer program product of claim 48, wherein the shape model technique uses texture windows and the size of the texture windows is automatically scaled based on a current estimate of the size of the face.

50 (original). The computer program product of claim 48, wherein the spacing of search locations is automatically scaled based on a current estimate of the size of the face.

51 (original). The computer program product of claim 49 wherein an estimate of the size of the face is found by determining the scale that best aligns a current estimate of the feature positions with a model of the average positions of the facial features using a least squares process.

52 (original). The computer program product of claim 50 wherein an estimate of the size of the face is found by determining the scale that best aligns a current estimate of the feature positions with a model of the average positions of the facial features using a least squares process.

53 (original). The computer program product of claim 48, wherein the positions of the facial features that are outside a shape space boundary are constrained to locations of the shape found at the nearest point on a hyperelliptical boundary of the shape space.